Saskatchewan
Education

Instructional Approaches

A Framework for Professional Practice

1991

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Preface

Striving for the best is not a matter of reaching into the dark, for we see a clear picture in front of us, a vision of an exemplary school as all Saskatchewan schools can be. The vision is the driving force that makes us all believe the best is worth working for.

Directions: The Final Report.
Saskatchewan Education, February 1984 (p. 5).

Directions: The Final Report (1984), prepared by the Minister's Advisory Committee on Curriculum and Instruction, described a vision for the future of education in Saskatchewan. The Core Curriculum model that was developed in response was intended to align curriculum and instruction, to achieve fluency in scope and sequence from kindergarten to grade twelve, and to accommodate all stages of student growth and development.

The Curriculum and Instruction Review addressed broad issues related to curriculum, instruction, and teacher-learner interaction. The following describes the potential growth of each:

- **Curriculum:** from static, hierarchical, and segregated, to dynamic, egalitarian, and integrated.
- **Instruction:** from teacher-directed and transmissional, to student-centred and transactional.
- **Teacher-learner interactions:** from controlled, competitive, and conforming, to empowering, co-operative, and divergent.

It should be recognized that these are directions for transition that can move along a continuum. All curricula are not at the same state of transition, nor are all professionals at the same place in their instructional practices or their interactions with students. If the components of the Core Curriculum are to be integrated, transitions as outlined above need to occur.

Core Curriculum, the framework for the achievement of educational goals through classroom

instruction has as its main components the Required Areas of Study and the Common Essential Learnings. Core Curriculum also recognized the need for an Adaptive Dimension and an opportunity for Locally Determined Options in curriculum. These components, particularly the Common Essential Learnings and the Adaptive Dimension, find expression, interpretation, and implementation through instructional practice. For this reason, a range of instructional approaches is required if teachers are to meet the objectives of Core Curriculum and the instructional needs of students.

Instructional Approaches: A Framework for Professional Practice is one in the series of documents developed to support the Core Curriculum. Its purpose is to:

- affirm the integral position of instruction in meeting the objectives of Core Curriculum;
- provide support for teachers in extending their range of instructional practices;
- provide support for teachers in meeting the challenges associated with major curriculum change; and,
- provide curriculum writers with a design for integration of curriculum and instruction.

Instructional Approaches: A Framework for Professional Practice, while intended to be a useful and practical document, is neither a comprehensive study of instructional practice, nor a "how-to-do-it" guide. Rather, this document is intended to be of assistance to educators by:

- generating discussion among teachers about instructional approaches;
- promoting reflective thinking among teachers about instructional decisions;
- affirming the art, as well as the science, of teaching; and,
- acting as a catalyst for further professional development.

This document begins by examining the context within which instruction occurs. The first chapter describes the foundations upon which this document has been developed. Chapter Two introduces a framework for instructional approaches and describes the components of the instructional framework. In Chapter Three, the relationship of the Adaptive Dimension to instructional practice is described. Chapter Four examines a variety of factors that practitioners must consider in the selection of instructional approaches. Chapter Five takes a reflective look at the challenges educators face in the development of a repertoire of instructional approaches, and the available options educators have to meet these challenges.

Throughout this document the reader will find the heading, "Reflective Questions." The questions are intended to foster both individual reflection, and discussion with colleagues. These sample questions may cause other questions to be asked and, thus, provide an initiative for further professional development in the refinement of teaching practices.

Chapter 1: The Foundations For Refining Instructional Practice

One of the purposes of education is to provide children with the skills and knowledge needed to function capably as adults. With the world changing rapidly, the abilities acquired in schools today need to be reassessed, as do the ways in which students are expected to learn . . . And when the content of the curriculum changes, ways in which the curriculum is delivered must change correspondingly.

Toward the Year 2000.
Saskatchewan Education, 1985 (p. 6).

Knowledge of what constitutes effective teaching and learning has increased significantly in recent years. For example, knowledge of the psychology of child development and learning has become more sophisticated in its ability to provide an intelligent and informed context for instructional decision-making. In addition, knowledge of teaching and learning styles has led to an appreciation of what constitutes the best practice in meeting individual student needs. Educators recognize, too, that learning is an interactive process, and that students need to be actively involved in tasks that are achievable, useful, relevant, and challenging if they are to respond successfully to the curriculum challenges posed for them.

Above all, however, educators have learned that effective teaching occurs when the student is placed at the focus of decisions that are made not only about the curriculum itself, but also about the "process" by which the curriculum is delivered. Within this context, there is acknowledgement of the need for positive relationships between teacher and student.

Saskatchewan's Core Curriculum will find integration in the classroom through instruction. It is only after the teacher has worked through a curriculum with the students for whom it has been designed that the curriculum can be said to have been truly implemented. In this sense, the teacher is the facilitator through which the elements of Core Curriculum find expression. Such a notion provides a compelling rationale for an instructional resource such as this document.

Foundation One

Effective instruction can be defined and described. Instructional practice, then, can be improved through professional development programs that encourage teachers to be reflective practitioners.

Gage (1978) and Bruner (1966) use the terms *teaching* and *instruction* almost synonymously. For purposes of this document, *teaching* is used as the broader, more encompassing term. This follows Gage's statement that teaching is "any activity on the part of one person intended to facilitate learning on the part of another" (p. 14).

For the purposes of this document, *instruction* refers to those curriculum-related, professionally-informed decisions that teachers purposefully enact to enhance learning opportunities for students. *Effective* instruction is interactive and designed to accommodate student learning needs and styles through a variety of teaching practices.

Guiding Principles of Effective Instruction

Effective instruction is guided by general pedagogical approaches and specific instructional practices. The approaches and instructional practices espoused in this document are based upon the following beliefs about what constitutes effective instruction.

1. Effective instruction is eclectic.

   Professional teaching practice is not constrained by a belief that there is one best way. Teachers should be invited to extend their range of instructional approaches in a secure, risk-taking environment.

2. Effective instruction is tied directly to the success of the learning experience.

   Effective instruction occurs when the teacher links sound curriculum development and excellent instructional practice in a successful learning experience. Reciprocal, positive relationships between teacher and learner are also necessary for instruction to be truly effective. This means the student must be viewed as an active participant in the teaching-learning process.

3. Effective instruction is empowered professional practice in action.

   Instructional judgement must be encouraged and nurtured in classroom professionals so that they acquire the flexibility needed to adapt instructional practice to meet a wide variety of student needs.

4. Effective instruction integrates the components of the Core Curriculum.

   When making instructional decisions, teachers should consider the content, perspectives, and processes specified in the curriculum for a Required Area of Study or a Locally Determined Option, and the appropriate Common Essential Learnings. Teachers also need to make decisions regarding adaptation of instruction to meet individual student learning needs.

5. Effective instruction is generative and dynamic.

   Ever changing variables affect instructional decision-making. Educators are encouraged to extend their range of instructional approaches based on a foundation of research, a wide range of practical and theoretical knowledge, and a regard for students as active participants in the learning process.

6. Effective instruction recognizes there is an art as well as a science to teaching.

   Effective instruction results from a blend of the art and the science of teaching. The science of instruction, which has predominated in the past, needs to achieve a balance with the artistry involved in the successful teaching act.

7. Effective instruction acknowledges a comprehensive understanding of the instructional cycle.

   Teachers begin the instructional cycle by assessing individual student learning needs, interests, and strengths through observation and consultation with the student. They then determine the instructional approaches required, deliver instruction in a manner appropriate to the students' learning abilities and styles, and evaluate student growth and understanding. The cycle concludes with teacher self-reflection and further teacher-student consultation.

8. Effective instruction finds best expression when educators collaborate to develop, implement, and refine their professional practices.

   Instructional practice can be improved through sustained and systematic attention to professional development. Teachers can improve their own instructional practices by participating in professional development programs or working with peers and supervisors. These programs must include elements of the individual reflection that this document encourages.

Foundation Two

Teaching is an art as well as a science. Educators need to achieve balance between the two.

How often have teachers lamented that what worked well with one class met with abject failure with another? How is it that an approach to teaching which bores one student lifts another to the heights of inspiration? These questions are difficult to address because they transcend the matter of instructional *technique* and dwell more in the realm of what constitutes the *art* of effective teaching. Although the art of teaching is much more elusive than the science of teaching, there are some elements educators can capture and describe. Teachers can discuss these elements and explore them in the daily act of teaching. Through such discussion and introspection, enhanced teaching occurs.

Effective teaching blends the art and the science of teaching. Unfortunately, educators often respond to the mystery that is associated with this art by becoming overly defensive and by keeping their thoughts about their own teaching to themselves. The complexity associated with good teaching results in little open discussion. Palmer (1990) in speaking about the art of teaching states that educators:

. . . misconstrue mystery when we think of it as a 'black box', something opaque and impenetrable that we must either avoid or manipulate by main force . . . Good teachers dwell in the mystery of good teaching until it dwells in them. As they explore it alone and with others, the insight and energy of mystery begins to inform and animate their work. They discover and develop methods of teaching that emerge from their own integrity (p. 11).

During several decades of research and writing in this field, educators have recognized both the art and the science of teaching. Silberman (1966) affirms there is an art to teaching, but goes on to indicate that because of the repertoire of techniques, procedures, and skills involved, teaching has the characteristics of a science. Hunter (1984) refers to teaching as an applied science. However, not all authors stress the science of teaching to the same level. Eisner (1983) states that efforts to develop a prescriptive science of teaching do not hold promise. He supports the idea that scientific inquiry in teaching can provide "rules of thumb", but not rules. He argues that no science of teaching could be so prescriptive as to make teaching routine, and that the dynamics of the classroom setting require that the teacher read subtle nuances and respond creatively to them.

Gage (1978) presents the idea that there is a scientific basis for the art of teaching. He views teaching as a useful or practical art which ". . . must be recognized as a process that calls for intuition, creativity, improvisation and expressiveness . . ." (p. 15). Gage provides the following example: when a chemist is using available knowledge, he or she is practicing science, but when research is conducted there is an element of art as well. He summarizes his analogy by stating, "in medicine and engineering, where the scientific basis is unquestionable, the artistic elements also abound. In teaching, where the artistic elements are unquestionable, a scientific base can also be developed" (p. 18).

Vaill (1989) describes management as a performing art and suggests that effective leaders and, by implication, effective teachers, consistently model the characteristics of a performing artist. He states that the artist:

- is concerned with the "rounded performance" and has a notion of the "quality of performance";
- considers every performance a fresh one;
- works at honing skills of variety and timing;
- has a deep concern for contextuality;
- considers expressiveness as important as technical competence; and,
- reaches out and touches the individual.

Flinders (1989) suggests that there are several areas where the artistry in teaching is apparent:

- communication -- the ability of the teacher to initiate and sustain a multitude of personal interactions with students;
- perception -- the ability of the teacher to pick up on such things as student attitudes, motives, and beliefs, and to adapt a lesson appropriately;
- co-operation -- the ability of the teacher to negotiate a collaborative and open relationship with students; and,
- appreciation -- the ability of the teacher to feel an intrinsic sense of self-worth from doing a difficult job well.

This document, with its instructional framework, supports the idea that there is both science and art in effective instruction. Recognition of the art and science in instruction reinforces the position that the teacher is an instructional decision-maker and, therefore, requires an array of instructional approaches from which to select when making informed decisions. This document also supports the idea that elements of effective teaching are honed and internalized when teachers reflect on their own teaching, watch others in the teaching process, and talk to each other about the reasons for successes and disappointments. ***It is through such self-reflection and professional discourse that the elusiveness associated with the art of effective teaching is capable of being captured.***

Foundation Three

Teachers should see themselves as instructional decision makers. They must have a sound knowledge base of teaching, a repertoire of instructional practices, and the abilities of reflection and problem-solving (Arends, 1988).

Research in the areas of teacher effectiveness and school effectiveness has resulted in a useful information base for educators. While research may provide the "rules of thumb" referred to by Eisner, research is also replete with information regarding the other aspects of instruction, namely the learner and the instructional task. The following summarizes some of the important characteristics and attributes that research and experience indicate ought to exist for optimal learning to occur.

Teachers should:

- be caring and positive;
- be prepared in their subject content and instructional practice;
- have high expectations for their students;
- be aware of and sensitive to the relationships among teacher, learner, and task; and,
- provide consistent and constructive feedback to students.

Learners should:

- be interested in learning about the topic at hand;
- see the relevance of the topic at hand;

- be involved in decisions regarding their own learning;
- be motivated; and,
- see the relationship between the instructional approach and the learning experience.

The instructional task should:

- be specific and of a size that is manageable;
- be achievable given the ability and interest of the student;
- actively involve the student; and,
- be challenging and relevant to the student.

Learning styles and teaching styles are topics that have been the focus of extensive research, and have direct applicability to instructional approaches. Defined simply, learning style is a specific or unique way a person learns. Sternberg (1990) states that styles "are propensities rather than abilities" (p. 366). A particular learning style is an indicator of how a person prefers to learn, rather than of how well or how much the person learns. Because of the range of learning styles in the average class, an instructional method that is effective for some learners may be ineffective for others (Dunn, Beaudry, & Klavas, 1989). Teachers can foster greater student academic achievement and decrease discipline problems when the selection of instructional methods recognizes learning style variance (Dunn & Dunn, 1987).

Despite such research findings, teachers tend to teach the way they were taught or according to their own preferences for learning. Most teachers agree that they should become more familiar with learning styles and that they could do more to match teaching with learning. Henson (1988) asserts that teachers should purposely master and use a variety of instructional approaches. He adds that teachers need not always accommodate student preferences. Students, he notes, should experience a variety of styles.

Teachers, then, need to recognize the interaction among teaching styles, instructional strategies, and learning styles. They must view themselves as instructional decision makers and partners, along with their students, in the teaching-learning experience.

Foundation Four

Students should be viewed as autonomous learners who can become aware of their own learning needs and their own ability to meet them.

A fundamental refrain that echoes throughout this document is that education should develop autonomous learners. **Learning how to learn** has never been as important as it is for students today. Statistics indicate that those soon to assume a place in the work force will need to retrain several times throughout their lifetimes. It is important to note that not all post-graduation learning needs to be job oriented. The ability to learn independently will aid students in all aspects of their lives beyond formal schooling.

In becoming autonomous learners, there are several continua of developmental growth along which students may progress:

- **from** dependent **to** independent;
- **from** knowledge and comprehension **to** synthesis and evaluation;
- **from** preoperational **to** formal reasoning; and,
- **from** a closed learning climate **to** one that is open.

There are, of course, a variety of ways teachers can help students become autonomous learners. The Common Essential Learnings, and Independent Learning in particular, aim to encourage autonomous learning and decision-making. Learning with a wide variety of print, non-print, and human resources encourages the development of research skills and independent learning skills.

Teachers can encourage autonomous learning, first by recognizing the importance of viewing students as self-directed learners, and second by the selection of appropriate student-centred instructional approaches. The selection of these approaches should be made in consultation with individual students, so that they become aware of their own learning needs and ability to meet them. The teacher should also establish a classroom climate in which students feel comfortable making their own decisions and reflecting on the consequences.

Summary

There are many bases upon which *Instructional Approaches: A Framework for Professional Practice* has been developed. These include the following:

- effective instruction can be defined and described;
- teaching is an art as well as a science;
- teachers should see themselves as instructional decision makers; and,
- teachers should view students as autonomous learners.

Each of the above underscores the importance of instructional decision making, particularly considering the challenges associated with the delivery of the components of the Core Curriculum.

There is a need to assist the reader in understanding the range and complexity of instructional approaches. The following chapter presents a framework designed to illustrate a comparative overview of instructional practice.

The Reflective Process

This document is intended to be of assistance to educators by:

- **affirming the art of teaching;**
- **generating discussion;**
- **promoting reflective thinking; and,**
- **acting as a catalyst for further professional development.**

The reflective questions at the end of each chapter were developed with the above intentions in mind. They provide a context for personal reflection and a starting point for group discussion on the various topics addressed in the document.

Reflective Questions

1. **What instructional approaches do I use in my classroom? Why? What factors have caused me to adopt my present teaching style?**

2. **What other instructional approaches would I like to incorporate into my classroom practice?**

3. **When I think about integrating both the science and art of teaching, I envision a teacher who . . .**

Chapter 2: Instructional Models, Strategies, Methods, And Skills

What children learn depends not only on what they are taught but also on how they are taught, their developmental level, and their interests and experiences... These beliefs require that much closer attention be paid to the methods chosen for presenting material...

Understanding the Common Essential Learnings. Saskatchewan Education, 1988. (p. 10)

Teaching as Decision Making

Planning a unit or lesson involves a number of instructional decisions. The teacher must identify the following: the content and processes to be addressed, the strengths, needs, and interests of students, the Common Essential Learnings that could be incorporated, and the most effective instructional approaches. Such decisions are critical and must be made consciously and purposefully.

As Glickman (1991) states:

"Effective teaching is not a set of generic practices, but instead is a set of context-driven decisions about teaching. Effective teachers do not use the same set of practices for every lesson . . . Instead, what effective teachers do is constantly reflect about their work, observe whether students are learning or not, and, then adjust their practice accordingly (p. 6).

Because there are so many variables for teachers to consider when making decisions about teaching and learning, it is essential that they have a conceptual base for understanding Saskatchewan's Core Curriculum and a framework for understanding the levels associated with instructional decision making. This chapter deals first with the conceptual base and instructional framework, then goes on to define instructional models, strategies, methods, and skills.

The Conceptual Base

The Goals of Education presented in *Directions: The Final Report* (1984) are central to the development of Core Curriculum. Figure 1 illustrates the pervasive influence the Goals of Education exert upon the areas of curriculum and instruction. In addition, it demonstrates how the Common Essential Learnings and the Adaptive Dimension link the Goals of Education with the educational environment.

The Common Essential Learnings (C.E.L.s) and the Adaptive Dimension are central to effective instructional decision making. They are, in many respects, the "bond" that ties the distinct elements of Core Curriculum together and integrates curriculum and instruction. In this sense, they are the unifying elements of Core, and have as much to say about effective instruction as they do about effective curriculum design.

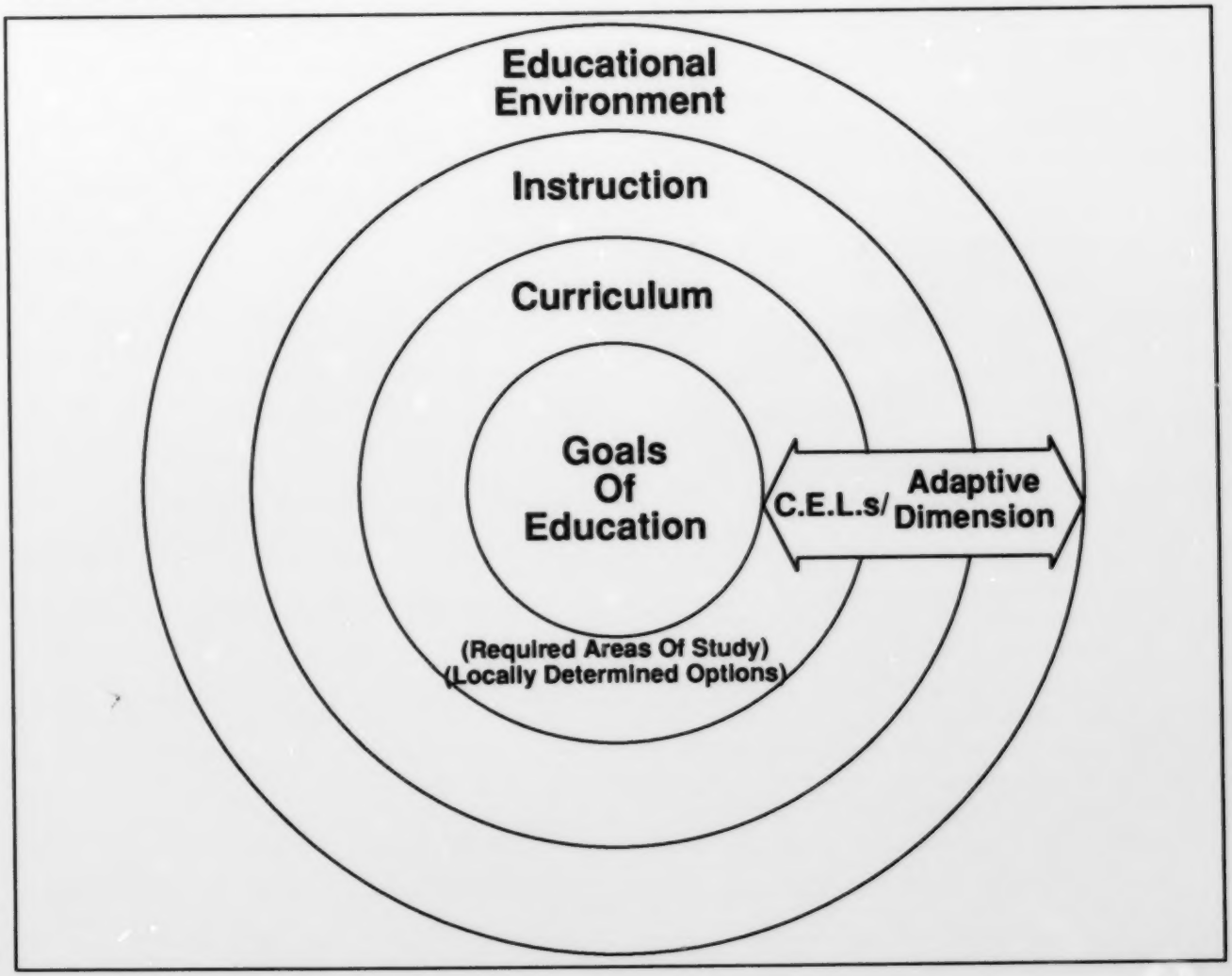

Figure 1. Conceptual Base for Core Curriculum

The instructional approaches identified in the document are flexible enough to incorporate the Common Essential Learnings and to accommodate individual student needs, abilities, interests, and strengths through the Adaptive Dimension. The following discussion focuses specifically upon the instructional portion of the Conceptual Base.

The Instructional Framework

Figure 2, the Instructional Framework, identifies and illustrates the interrelationship among instructional approaches that, properly used, are acknowledged to be consistent with sound educational practice. The approaches are referenced to the goals of education and apply to the objectives of the various curricula. Figure 2 also illustrates the levels of approaches in instruction ranging from an instructional model, a broad approach, to an instructional skill, which represents a specific teaching behaviour or technique. Within each level the potential exists for developing both the science and the art of teaching.

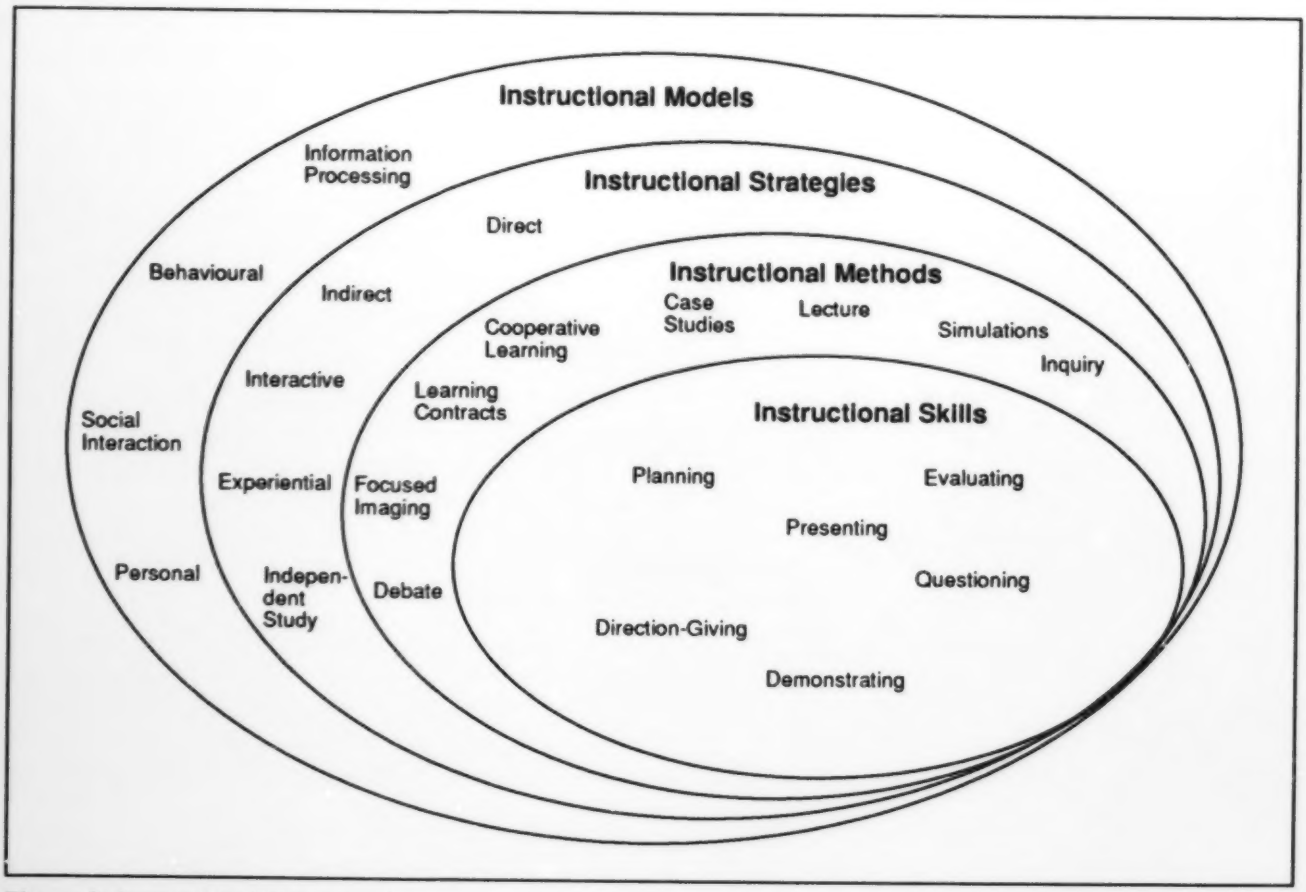

Figure 2. Instructional Framework

Defining the Instructional Framework

The following definition of terms will help to interpret the framework and to clarify the relationships between and among the levels.

Instructional Models

Models represent the broadest level of instructional practices and present a philosophical orientation to instruction. Models are used to select and to structure teaching strategies, methods, skills, and student activities for a particular instructional emphasis. Joyce and Weil (1986) identify four models: information processing, behaviourial, social interaction, and personal.

Instructional Strategies

Within each model several strategies can be used. Strategies determine the approach a teacher may take to achieve learning objectives. Strategies can be classed as direct, indirect, interactive, experiential, or independent.

Instructional Methods

Methods are used by teachers to create learning environments and to specify the nature of the activity in which the teacher and learner will be involved during the lesson. While particular methods are often associated with certain strategies, some methods may be found within a variety of strategies.

Instructional Skills

Skills are the most specific instructional behaviours. These include such techniques as questioning, discussing, direction giving, explaining, and demonstrating. They also include such actions as planning, structuring, focusing, and managing.

Figure 3 illustrates the relationship among instructional models, strategies, methods, and skills.

The Instructional Framework is intended to encourage teachers to examine their own instructional practice. Reflective assessment of the use of strategies, methods, and skills may lead teachers to broaden and deepen their repertoire of instructional approaches. Expanding the knowledge and expertise regarding various instructional approaches can enrich the artistry of teaching and, in turn, enhance the effectiveness of instruction. The remainder of this chapter is devoted to a study of specific instructional models, strategies, methods, and skills.

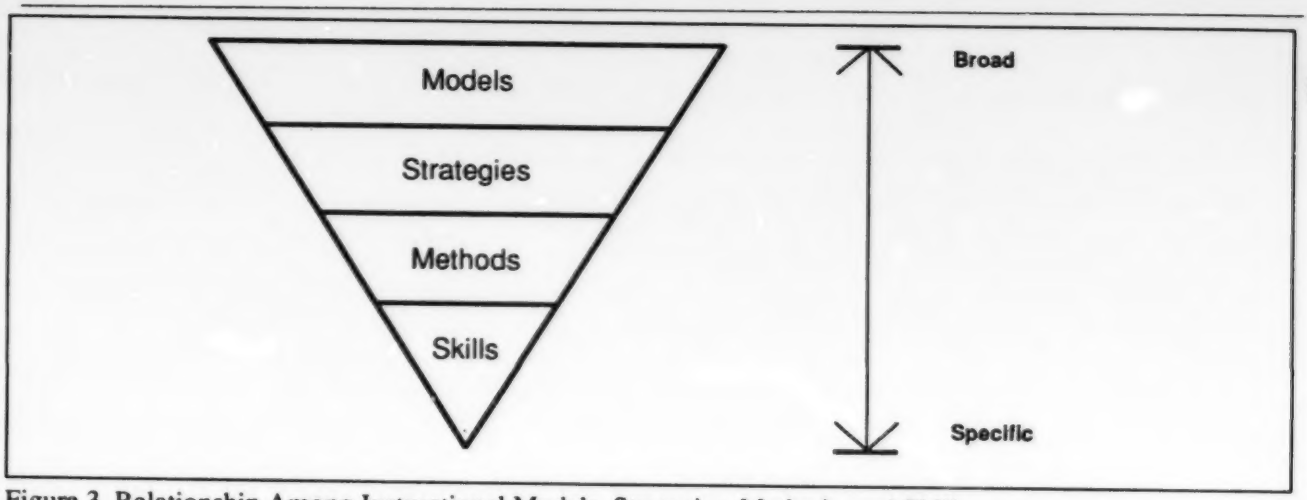

Figure 3. Relationship Among Instructional Models, Strategies, Methods, and Skills

Instructional Models

Joyce and Weil (1986) present four broad models for instruction. These models are defined as follows.

Information Processing

This model emphasizes the acquisition, mastery, and processing of information. The cognitive functioning of the student is the focus.

Personal

The emphasis in this model is on the development of the individual's self concept. This involves development of the processes an individual uses to build and organize his or her unique self. The focus on a strong, realistic self concept helps to build productive relationships with others and the environment.

Social Interaction

This model emphasizes the personal and societal relationships among people. The focus is on improving the student's ability to relate to others, to engage in democratic processes, and to work productively in society.

Behavioral

The behavioral model emphasizes changing the visible behaviour of the learner to be consistent with his or her own self concept. As a result of its basis in the stimulus control/reinforcement theories, the behavioral model of instruction stresses that learning tasks should be broken into

a series of small, sequenced tasks and behaviours.

The preceding four models are not necessarily exclusive. A unit of instruction might draw from several of the models, while a single lesson might incorporate aspects of more than one model.

Instructional Strategies

Decision making regarding instructional strategies requires teachers to focus on curriculum, the prior experiences and knowledge of students, learner interests, student learning styles, and the developmental levels of the learner. Such decision making relies on ongoing student assessment that is linked to learning objectives and processes.

Although instructional strategies can be categorized, the distinctions are not always clear cut. For example, a teacher may provide information through the lecture method (from the **direct instruction** strategy) while using an interpretive method to ask students to determine the significance of information that was presented (from the **indirect instruction** strategy).

Five categories of instructional strategies and the interrelationship between and among strategies are illustrated in Figure 4. Explanations of the five categories follow. Although samples of instructional methods pertaining to each category are sometimes included, these will be explained further in the section "Instructional Methods".

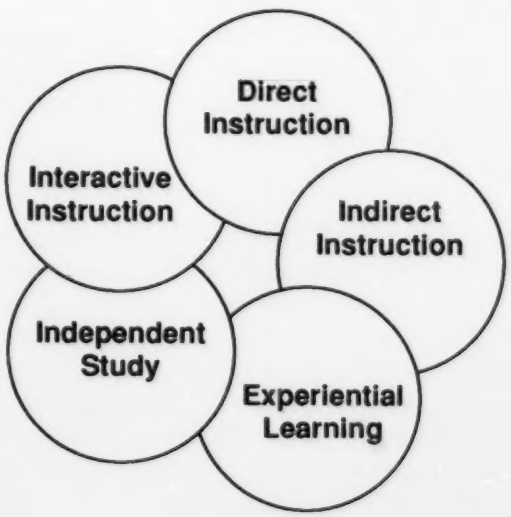

Figure 4. Instructional Strategies

Direct Instruction

The **Direct instruction** strategy is highly teacher directed and is among the most commonly used. This strategy includes methods such as lecture, didactic questioning, explicit teaching, practice and drill, and demonstrations.

The direct instruction strategy is effective for providing information or developing step-by-step skills. This strategy also works well for introducing other teaching methods, or actively involving students in knowledge construction.

Direct instruction is usually deductive. That is, the rule or generalization is presented and then illustrated with examples. While this strategy may be considered among the easier to plan and to use, it is clear that effective direct instruction is often more complex than it would first appear.

Direct instruction methods are widely used by teachers, particularly in the higher grades. The predominant use of direct instruction methods needs to be evaluated, and educators need to recognize the limitation of these methods for developing the abilities, processes, and attitudes required for critical thinking, and for interpersonal or group learning. Student understanding of affective and higher level cognitive objectives may require the use of instructional methods associated with other strategies. To ensure that the Saskatchewan Goals of Education are achieved, teachers will need to employ a variety of instructional strategies.

Indirect Instruction

Inquiry, induction, problem solving, decision making, and discovery are terms that are sometimes used interchangeably to describe **indirect instruction**. In contrast to the direct instruction strategy, indirect instruction is mainly student-centred, although the two strategies can complement each other. Examples of indirect instruction methods include reflective discussion, concept formation, concept attainment, cloze procedure, problem solving, and guided inquiry.

Indirect instruction seeks a high level of student involvement in observing, investigating, drawing inferences from data, or forming hypotheses. It takes advantage of students' interest and curiosity, often encouraging them to generate alternatives or solve problems. It is flexible in that it frees students to explore diverse possibilities and reduces the fear associated with the possibility of giving incorrect answers. Indirect instruction also fosters creativity and the development of interpersonal skills and abilities. Students often achieve a better understanding of the material and ideas under study and develop the ability to draw on these understandings.

In indirect instruction, the role of the teacher shifts from lecturer/director to that of facilitator, supporter, and resource person. The teacher arranges the learning environment, provides opportunity for student involvement, and, when appropriate, provides feedback to students

while they conduct the inquiry (Martin, 1983). Indirect instruction relies heavily on the use of print, non-print, and human resources. Learning experiences are greatly enhanced through cooperation between teachers, and between teachers and the teacher-librarians.

The indirect instruction strategy can be used by teachers in almost every lesson. This strategy is most appropriate when:

- thinking outcomes are desired;
- attitudes, values, or interpersonal outcomes are desired;
- process is as important as product;
- students need to investigate or discover something in order to benefit from later instruction;
- there is more than one appropriate answer;
- the focus is personalized understanding and long term retention of concepts or generalizations;
- ego involvement and intrinsic motivation are desirable;
- decisions need to be made or problems need to be solved; and,
- life-long learning capability is desired.

In order for students to achieve optimum benefits during indirect instruction, it may be necessary for the teacher to preteach the skills and processes necessary to achieve the intended learning outcomes. Skills and processes include observing, encoding, recalling, classifying, comparing/contrasting, inferring, interpreting data, predicting, elaborating, summarizing, restructuring, and verifying.

Indirect instruction, like other strategies, has disadvantages. Indirect instruction is more time consuming than direct instruction, teachers relinquish some control, and outcomes can be unpredictable and less safe. Indirect instruction is not the best way of providing detailed information or encouraging step-by-step skill acquisition. It is also inappropriate when content memorization and immediate recall is desired.

Interactive Instruction

Interactive instruction relies heavily on discussion and sharing among participants. Seaman and Fellenz (1989) suggest that discussion and sharing provide learners with opportunities to "react to the ideas, experience, insights, and knowledge of the teacher or of peer learners and to generate alternative ways of thinking and feeling" (p. 119). Students can learn from peers and teachers to develop social skills and abilities, to organize their thoughts, and to develop rational arguments.

The interactive instruction strategy allows for a range of groupings and interactive methods. These may include total class discussions, small group discussions or projects, or student pairs or triads working on assignments together. It is important for the teacher to outline the topic, the amount of discussion time, the composition and size of the groups, and reporting or sharing techniques. Interactive instruction requires the refinement of observation, listening,

interpersonal, and intervention skills and abilities by both teacher and students.

The success of the interactive instruction strategy and its many methods is heavily dependent upon the expertise of the teacher in structuring and developing the dynamics of the group.

Experiential Learning

Experiential learning is inductive, learner centred, and activity oriented. Personalized reflection about an experience and the formulation of plans to apply learnings to other contexts are critical factors in effective experiential learning. Experiential learning occurs when learners:

- participate in an activity;
- critically look back on the activity to clarify learnings and feelings;
- draw useful insights from such analysis; and,
- put learnings to work in new situations. (Pfeiffer & Jones, 1979)

Experiential learning can be viewed as a cycle consisting of five phases, all of which are necessary:

- **experiencing** (an activity occurs);
- **sharing** or publishing (reactions and observations are shared);
- **analyzing** or processing (patterns and dynamics are determined);
- **inferring** or generalizing (principles are derived); and,
- **applying** (plans are made to use learnings in new situations).

The emphasis in experiential learning is on the process of learning and not on the product. A teacher can use experiential learning as an instructional strategy both in and outside the classroom. For example, in the classroom students can build and stock an aquarium or engage in a simulation. Outside the classroom they can, for example, observe courtroom procedures in a study of the legal system, or conduct a public opinion survey. Experiential learning makes use of a variety of resources.

There are obvious limitations to the kinds of experiences that students may gain first hand. Concern for student safety, limitations on financial resources, and lack of available time are some of the reasons this strategy cannot be applied in all situations. The benefits to students, however, justify the extra efforts this strategy may require.

Experiential learning is an effective instructional strategy if direct or "hands-on" experience is needed before teaching methods that involve iconic learning (for example, looking at pictures) or symbolic learning (for example, listening to the teacher talk). Experiential learning greatly increases understanding and retention in comparison to methods that solely involve listening, reading, or even viewing (McNeil & Wiles, 1990). Students are usually more motivated when they actively participate and teach one another by describing what they are doing.

Independent Study

For the purposes of this document, **independent study** refers to the range of instructional methods which are purposefully provided to foster the development of individual student initiative, self-reliance, and self-improvement. While independent study may be initiated by student or teacher, the focus here will be on planned independent study by students under the guidance or supervision of a classroom teacher. In addition, independent study can include learning in partnership with another individual or as part of a small group.

The importance of independent study is captured in the following statement:

Independent learning has implications for responsible decision making, as individuals are expected to analyze problems, reflect, make decisions and take purposeful actions. To take responsibility for their lives in times of rapid social change, students need to acquire life-long learning capability. As most aspects of our daily lives are likely to undergo profound changes, independent learning will enable individuals to respond to the changing demands of work, family and society. (Saskatchewan Education, 1988, p. 53)

A primary educational goal is to help students become self-sufficient and responsible citizens by enhancing individual potential. Schools can help students to grow as independent learners. However, if the knowledge, abilities, attitudes, and processes associated with independent learning are to be acquired, they must be taught and enough time must be provided for students to practice. Use of independent study methods may begin as early as kindergarten and should continue to be used through all the grades. Students should be able to continue to learn after they have left the structured learning environment of the school.

Independent study encourages students to take responsibility for planning and pacing their own learning. Independent study can be used in conjunction with other methods, or it can be used as the single instructional strategy for an entire unit. The factors of student maturity and independence are obviously important to the teacher's planning.

Adequate learning resources for independent study are critical. The teacher who wishes to help students become more autonomous learners will need to support the development of their abilities to access and handle information. It is important to assess the abilities students already possess. These abilities often vary widely within any group of students. Specific skills and abilities may then be incorporated into assignments tailored to the capabilities of individual students. The co-operation of the teacher librarian and the availability of materials from the resource centre and the community provide additional support.

Independent study is very flexible. It can be used as the major instructional strategy with the whole class, in combination with other strategies, or it can be used with one or more individuals while another strategy is used with the rest of the class.

Instructional Methods

After deciding on appropriate instructional strategies, a teacher must make decisions regarding instructional methods. As is the case with strategies, the distinction between methods are not always clear cut although they are categorized for the purposes of this document. Figure 5 illustrates how various methods relate to the five strategies presented in the previous section. It should be noted that the methods appearing in the diagram are examples only, and are not intended to be inclusive of all instructional methods.

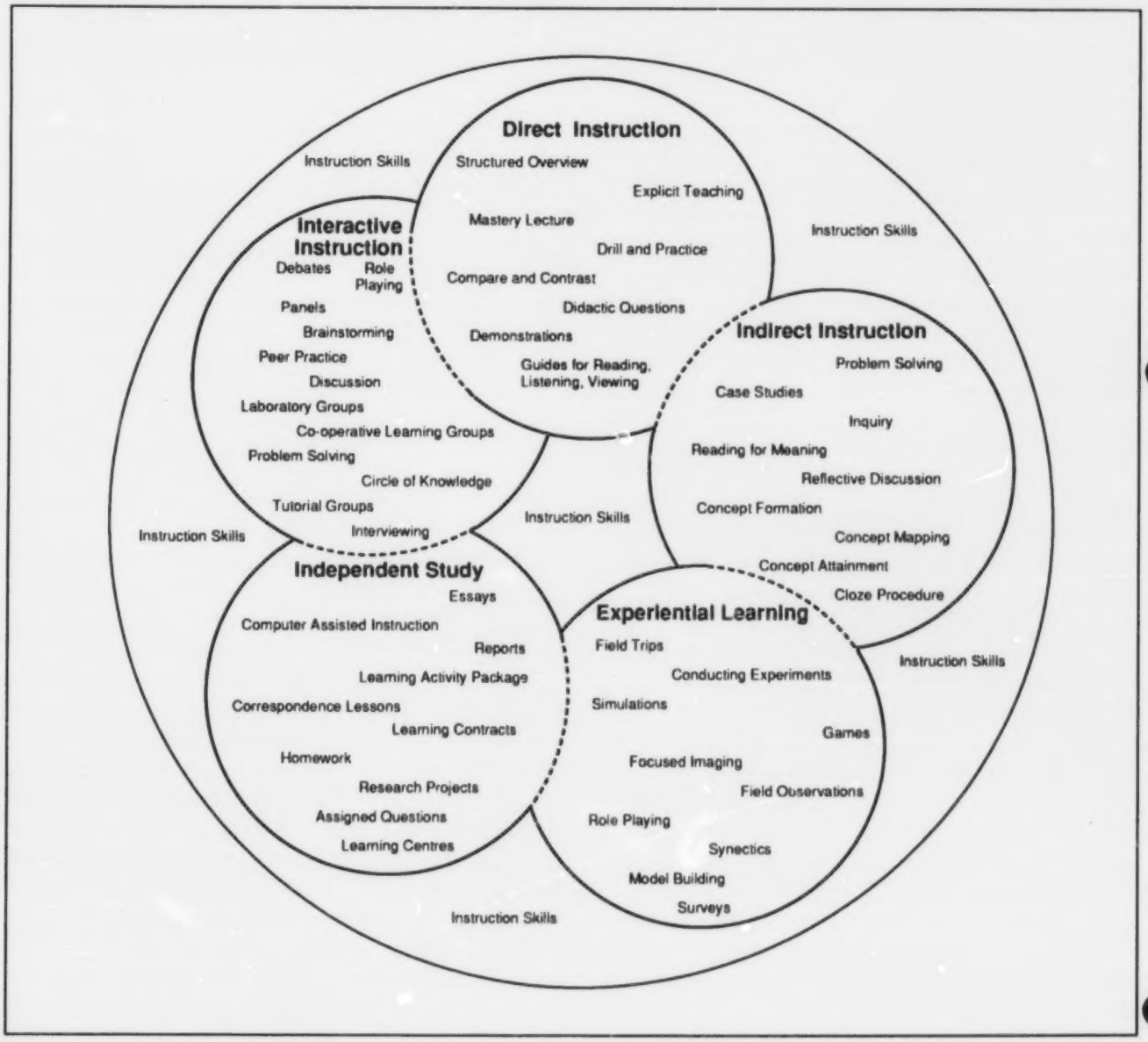

Figure 5 Instructional Strategies

A sampling of instructional methods with accompanying explanations is presented in this section. The methods are organized by instructional strategy, as they appear in Figure 5.

Direct Instruction

Lecture

Lecture is a valuable part of a teacher's instructional repertoire if it is not overused and if it is not used when other methods would be more effective. If the presenter is knowledgeable, perceptive, engaging, and motivating, then lecture can stimulate reflection, challenge the imagination, and develop curiosity and a sense of inquiry. **Criteria for the selection of the lecture method should include the types of experiences students will be afforded and the kinds of learning outcomes expected.** Because lecture is teacher-centred and student activity can be mainly passive, the attention span of students may be limited. Many students, because of learning style preferences, may not readily assimilate lectured content. In addition, lectured content is often rapidly forgotten.

Didactic Questioning

Didactic questioning offers the teacher a way to structure the learning process (McNeil & Wiles, 1990). Didactic questions tend to be convergent, factual, and often begin with "what," "where," "when," and "how." They can be effectively used to diagnose recall and comprehension skills, to draw on prior learning experiences, to determine the extent to which lesson objectives were achieved, to provide practice, and to aid retention of information or processes. Teachers should remember that didactic questions can be simplistic, can encourage guessing, and can discourage insightful answers or creativity. However, effectiveness of this method can be increased by the appropriate addition of "why" questions, and the occasional use of "what if" questions.

Indirect Instruction

Concept Formation

Concept formation provides students with an opportunity to explore ideas by making connections and seeing relationships between items of information. This method can help students develop and refine their ability to recall and discriminate among key ideas, to see commonalities and identify relationships, to formulate concepts and generalizations, to explain how they have organized data, and to present evidence to support their organization of the data involved.

In this instructional method, students are provided with data about a particular concept. These data may be generated by the teacher or by the students themselves. Students are encouraged to classify or group the information and to give descriptive labels to their groupings. By linking the examples to the labels and by explaining their reasoning, the students form their own understanding of the concept.

Concept formation lessons can be highly motivational because students are provided with an opportunity to participate actively in their own learning. In addition, the thinking process involved helps them create new and expanded meaning of the world around them as they organize and manipulate information from other lessons and contexts in new ways.

Inquiry

Inquiry learning provides opportunities for students to experience and acquire processes through which they can gather information about the world. This requires a high level of interaction among the learner, the teacher, the area of study, available resources, and the learning environment. Students become actively involved in the learning process as they:

- act upon their curiosity and interests;
- develop questions;
- think their way through controversies or dilemmas;
- look at problems analytically;
- inquire into their preconceptions and what they already know;
- develop, clarify, and test hypotheses; and,
- draw inferences and generate possible solutions.

Questioning is the heart of inquiry learning. Students must ask relevant questions and develop ways to search for answers and generate explanations. Emphasis is placed upon the process of thinking as this applies to student interaction with issues, data, topics, concepts, materials, and problems.

Divergent thinking is encouraged and nurtured as students recognize that questions often have more than one "good" or "correct" answer. Such thinking leads in many instances to elaboration of further questions. In this way students come to the realization that knowledge may not be fixed and permanent but may be tentative, emergent, and open to questioning and alternative hypotheses.

Deductive Inquiry

The focus in deductive inquiry is on moving students from a generalized principle to specific instances that may be subsumed logically within generalizations. The process of testing generalized assumptions, applying them, and exploring the relationships between specific elements is stressed. The teacher co-ordinates the information and presents important principles, themes, or hypotheses. Students are actively engaged in testing generalizations, gathering information, and applying it to specific examples. Deductive inquiry is based upon the logical assimilation and processing of information.

Inductive Inquiry

The information-seeking process of the inductive inquiry method helps students to establish facts, determine relevant questions, develop ways to pursue these questions, and build

explanations. Students are invited to develop and support their own hypotheses.

Through inductive inquiry, students experience the thought processes which require them to move from specific facts and observations to inferences. To help students accomplish this, the teacher selects a set of events or materials for the lesson. The student reacts and attempts to construct a meaningful pattern based on personal observations and the observations of others. Students generally have some kind of theoretical frame when they begin inductive inquiry. The teacher encourages students to share their thoughts so that the entire class can benefit from individual insights.

Interactive Instruction

A. Classroom Group Interaction

The teacher often works with the class as a whole, particularly when presenting information or modelling a process. The class is viewed as a work group, engaged in a productive academic enterprise. Teachers should establish a positive, productive learning climate and provide group participation training. Students need to acquire group process and discussion skills if they are to learn through the interactive process. Students that have been helped to develop these processes and abilities often do better academically because positive interaction fosters self concept. The most frequently used classroom group interaction methods are discussion, and question and answer. These are described below.

Discussion

Educators recognize that knowledge is more than correct answers and can be gained through creative inquiry and active participation by students. Discussion can be meaningfully adapted to many classroom situations. For example, whole class discussion may occur if, during a presentation, the teacher notices that students are particularly interested in a topic and initiates a discussion. Whole class discussion can help build a positive classroom climate and lead to student interest in a school subject. In addition, the teacher can model active listening and build on student responses.

Effective discussions are normally based on material familiar to the students. The problem or issue can be one that does not require a particular response, or one where it is important for students to discover an answer. The teacher should stress with students that opinions must be supported, and then ensure that the terms and concepts needed are understood. Discussion should conclude with consensus, a solution, clarification of insights gained, or a summary (preferably one provided by the students). Students should have a clear understanding of the major points and their applications to other situations. It should be noted that some discussions can lead students to conduct further research.

Question and Answer

When the question and answer method is used effectively, students feel they are being personally addressed by the teacher. When responding, students should speak, not only to the teacher, but also to their peers. Frequent use should be made of probes, prompts, and redirecting techniques. "Wait time," the pause between asking a question and soliciting a response, should be used to advantage by the teacher to increase participation and improve the quality of student responses. An important aspect of the question and answer method is the wording of questions in order to help students think more deeply about the material or unit under study.

B. Small Group Interaction

Small groups are particularly effective when the intention is to develop social as well as academic abilities. In a small group, everyone has an opportunity to contribute. Students get more chances to talk, listen, and receive feedback than would be possible in whole-class instruction.

Co-operative Learning Group

The basic elements of co-operative learning can be considered essential to all interactive methods. Student groups are small, usually consisting of two to six members. Grouping is heterogeneous with respect to student characteristics. Group members share the various roles and are interdependent in achieving the group learning goal. While the academic task is of primary importance, students also learn the importance of maintaining group health and harmony, and respecting individual views.

A substantial body of research has shown that co-operative learning is effective. Johnson and Johnson (1989) state:

Co-operative learning experiences, compared to competitive and individualistic ones, promote higher achievement, greater motivation, more positive interpersonal relations among students, more positive attitudes toward the subject area and teacher, greater self-esteem and psychological health, more accurate perspective taking, and greater social skills (p. 8-9).

In addition, Slavin (1987) indicates that two conditions must be established if co-operative learning is to fulfil its claim of enhancing student achievement substantially. Slavin believes that "students must be working toward a common goal . . . [and] success at achieving the goal must depend on the individual learning of all group members" (p. 9).

Co-operative learning can take place in a variety of circumstances. For example, brainstorming and tutorial groups, when employed as instructional strategies, provide opportunities to develop co-operative learning skills and attitudes.

Experiential Learning

Simulation

To initiate a simulation, the teacher presents an artificial problem, situation, or event that represents some aspect of reality. Because the experience is a simulation, any serious risk or complication that may be associated with the real life phenomenon is removed. In addition, the level of abstraction or complexity is purposefully reduced so that students may become directly involved with underlying concepts. Simulation also allows for types of experimentation that cannot take place in the real environment. The simulation method may involve the use of models, game formats, structured role plays, or an interactive computer or video program. In most instances, students are easily motivated to participate.

During simulation activities, students become active participants in the learning process. A variety of learning objectives may be associated with the simulation. Some focus on the application of previous knowledge, skills, and abilities, while others emphasize the acquisition of new knowledge, understandings, insights, and appreciations. Many simulation activities promote and develop critical and creative thinking or involve interactions which develop interpersonal and social skills, attitudes, and values.

Focused Imaging

Imaging, the process of internally visualizing an object, event, or situation, has the potential to nurture and enhance a student's creativity (Bagley & Hess, 1987). Imaging enables students to relax and allow their imaginations to take them on journeys, to "experience" situations first hand, and to respond with their senses to the mental images formed.

In the classroom, imaging exercises nurture and develop students' creative potentials. Teachers can encourage divergent thinking by asking students to transform a teacher-guided image into several others of their own creation, to imagine various solutions for spatial or design problems, or to visualize a particular scene or event and then imagine what might happen next.

Imaging provides a focus and an opportunity for open-minded exploration of new concepts in all areas of study. It can help broaden students' conceptual understanding of subject area material, especially complex concepts and processes. Imaging allows students to connect their prior experiences to new ideas under investigation.

Independent Study

Assigned Questions

Assigned questions are those prepared by the teacher to be answered by individuals or small groups of students. Students discuss their responses among one another or with the teacher.

Particular positions or points-of-view should be supported by evidence. In some instances, it may be desirable for students to generate their own set of questions.

This instructional method is effective when questions are well-phrased so that answering involves more than mechanical searching and copying from a book or other reference. It can be an efficient way for the teacher to introduce or review facts, concepts, generalizations, arguments, and points-of-view. Well-selected assigned questions can stimulate higher-level thinking, problem solving, decision making, and personal reflection. Questions should allow for multiple responses. Because student abilities and learning styles differ, this method may require some adaptation in order to maximize learning for all students.

Learning Contracts

Learning contracts provide a method of individualizing instruction and developing student responsibility. They permit individual pacing so that students may learn at the rate at which they are able to master the material. Learning contracts can be designed so that students function at the academic levels most suitable to them and work with resource materials containing concepts and knowledge that are appropriate to their abilities and experiences. Although this method focuses on the individual, learning contracts also provide an opportunity for students to work in small groups. The teacher may select this approach for some students to support them as they learn to work independently.

When a student is first beginning to use learning contracts, the teacher provides learning objectives, identifies a choice of resources, and sets some basic time parameters for the project. As students become more experienced with learning contracts, the teacher may choose to involve them in setting the learning objectives. Learning contracts usually require that students demonstrate the new learning in some meaningful way, but students are provided choice in the selection of a method or activity.

Learning contracts can be highly motivating for students. As they become skillful in making appropriate choices and as they begin to assume more responsibility for their own learning, they become increasingly independent, learn to use resources to their advantage, and take pride in their ability to teach themselves and share their new learning with others.

Instructional Skills

Instructional skills are the most specific category of teaching behaviours. These are used constantly as part of the total process of instruction. They are necessary for procedural purposes and for structuring appropriate learning experiences for students. No matter how experienced or how effective a teacher may be, the development and refinement of these skills and processes is a continual challenge.

A variety of instructional skills and processes exist. Some are broader than others and more complex in their nature. Some factors which may influence their selection and application include student characteristics, curriculum requirements, and instructional methods. For the purpose of illustrating instructional skills, two examples follow: explaining and demonstrating, and questioning.

Explaining and Demonstrating

The teacher spends much classroom time explaining or demonstrating something to the whole class, a small group, or an individual. Student resource materials typically do not provide extensive explanations of concepts, and students often need a demonstration in order to understand procedures.

Explaining

Some explanations are given to help students acquire or deepen their understanding of a concept, while others help students understand generalizations. Concerning the former, the teacher must select an appropriate concept definition and appropriate examples and nonexamples. Regarding the latter, Shostak (1986) suggests that an explanation can show:

- a cause and effect relationship (for example, to show the effect of adding an acid to a base);
- that an action is governed by a rule or law (for example, to show when to capitalize a noun);
- a procedure or process (for example, to show the operation of solving a mathematical equation); or,
- the intent of an activity or process (for example, to show the use of foreshadowing in drama).

Demonstrating

Much student learning occurs through observing others. A demonstration provides the link between "knowing about" and "being able to do." Research reveals that demonstrations are most effective when they are accurate, when learners are able to see clearly and understand what is going on, and when brief explanations and discussion occur during the demonstration (Arends, 1988).

Questioning

Among the instructional skills, questioning holds a place of prominence in many classrooms. When questioning is used well:

- a high degree of student participation occurs as questions are widely distributed;
- an appropriate mix of low and high level cognitive questions is used;
- student understanding is increased;
- student thinking is stimulated, directed, and extended;
- feedback and appropriate reinforcement occur;
- students' critical thinking abilities are honed; and,
- student creativity is fostered.

Good questions should be carefully planned, clearly stated, and to the point in order to achieve specific objectives. Teacher understanding of questioning technique, wait time, and levels of questions is essential. Teachers should also understand that asking and responding to questions is viewed differently by different cultures. The teacher must be sensitive to the cultural needs of the students and aware of the effects of his or her own cultural perspective in questioning. In addition, teachers should realize that direct questioning might not be an appropriate technique for all students.

Questioning Technique

The teacher should begin by obtaining the attention of the students before the question is asked. The question should be addressed to the entire class before a specific student is asked to respond. Calls for responses should be distributed among volunteers and non-volunteers, and the teacher should encourage students to speak to the whole class when responding. However, the teacher must be sensitive to each student's willingness to speak publically and never put a student on the spot.

Wait Time

Wait time is defined as the pause between asking the question and soliciting a response. Providing additional wait time after a student response also allows all students to reflect on the response prior to further discussion. Increased wait time results in longer student responses, more appropriate unsolicited responses, more student questions, and increased higher order responses. It should be noted that increased wait time is beneficial for students who speak English as a second language or English as a second dialect.

Levels of Questions

While the need for factual recall or comprehension must be recognized, teachers also need to challenge students with higher level questions requiring analysis, synthesis, or evaluation. The consideration of level is applicable at all grade levels and in all subject areas. All students need the opportunity to think about and respond to all levels of questions. Teacher probes or requests for clarification may be required to move students to higher levels of thinking and deeper levels of understanding.

Summary

Because there are so many variables for teachers to consider when making decisions about teaching and learning, it is essential that they have a conceptual base for understanding Saskatchewan's Core Curriculum and a framework for understanding the levels of instructional decisions. This chapter described the conceptual base and an instructional framework. It provided an overview of instructional models, strategies, methods, and skills. In addition, it illustrated the inter-relatedness of these four levels of the instructional framework.

Reflective Questions

1. **What are the most important considerations when choosing a particular instructional strategy or method?**

2. **In what ways might I broaden my repertoire of instructional approaches? How can I support, and be supported by, my colleagues in broadening instructional repertoires?**

3. **In what ways can each of the instructional strategies support the development of life-long learners?**

Chapter 3: The Adaptive Dimension

In Saskatchewan, there are many different geographical areas, ways of life, languages, cultural heritages, and socio-economic backgrounds. The diversity contributes to the wide range of differences which are found among school children in this province.

Saskatchewan Children.
Saskatchewan Education, 1984 (p. 14).

The Adaptive Dimension is defined as:

the concept of making adjustments in approved educational programs to accommodate diversity in student learning needs. It includes those practices the teacher undertakes to make curriculum, instruction, and the learning environment meaningful and appropriate for each student.

The Adaptive Dimension is an essential ingredient of all educational programs. Like the Common Essential Learnings, the Adaptive Dimension permeates all curriculum and instruction and is a part of all Core Curriculum initiatives.

The Adaptive Dimension is used to:

- provide background knowledge or experience when it is lacking;
- provide enrichment and/or extension when it is needed;
- ensure student success and reduce the possibility of failure;
- address students' cultural needs;
- accommodate community needs;
- increase curriculum relevance for students;
- provide variety in learning materials, including community resources; and,
- maximize the potential for learning.

Principles of the Adaptive Dimension

Adaptations to curriculum, instruction, and learning environment should be guided by the following beliefs:

- The Adaptive Dimension includes all students in all educational settings.
- The Adaptive Dimension places expectations upon the teacher and support personnel to assess, plan, and deliver appropriate learning experiences for all students.
- The Adaptive Dimension recognizes that students approach learning in multiple ways.
- The Adaptive Dimension recognizes the importance of careful pre-planning for instruction.
- The Adaptive Dimension requires the teacher to attend to the learner, the learning task, and the learning environment.
- The Adaptive Dimension requires that assessment practices align with the adaptations to curriculum and instruction provided for the student.
- The Adaptive Dimension expects student diversity, as reflected in individual differences, to be the key consideration for teacher planning.
- The Adaptive Dimension assumes that there is an interrelationship among the variables associated with adaptation.

Decision Making in the Adaptive Dimension

Recognizing that student diversity exists in every classroom, teachers use the approved curriculum as a basis for making decisions about adaptations in curriculum, instruction, or the learning environment to meet the diverse needs of the classroom population. Figure 6 illustrates the decision making process enacted by teachers as they provide the appropriate adjustments to the approved curriculum.

The Adaptive Dimension, then, is concerned first with the assessment and evaluation of the needs of all students relative to the **approved curriculum.** Subsequently, it is concerned with the refinement of decision making as the teacher shifts the focus of attention from the whole class to small groups and individual students.

This individual decision-making process recognizes that teachers begin by using a "wide-angled" approach to classroom instruction, uniformly applying decisions about curriculum, instruction, and classroom environment to **all students.** Using whole class instruction affords the teacher an opportunity to make some initial decisions concerning the needs of students in the class. Some students need no adaptations because the curriculum is appropriate to their needs. However, as a result of initial assessment the teacher has an opportunity to make two types of adjustments for those students who require an adaptation.

Through the decision making process, a teacher might decide to make adaptations in order to **enrich, extend, reinforce,** or **teacher differentially** toward formally stated curricular objectives for **small groups of students.** When such groupings are established they are based upon similar student needs, interests, and/or abilities. Adaptations of this nature are dynamic in the sense that subsequent evaluation leads to further adjustments in the pursuit of improved opportunities for student learning. Grouping arrangements must be flexible based on student needs in any given subject area.

A teacher might also decide it is necessary to make adaptations for an **individual student.** In such a case the teacher enriches, extends, reinforces, or teaches differentially toward formally stated curricular objectives based on individual needs, interests, or abilities.

It is important to remember that the point of reference for the Adaptive Dimension is always the approved curriculum. Within this context curricular objectives are not modified. Rather, the curriculum content, instructional approach, and/or learning environment is adjusted so that established curricular objectives can be achieved.

When curricular objectives are significantly modified, or when adjustments are made to curriculum content, instructional approach, or evaluation that significantly alter the nature of curricular objectives, then adaptation has occurred beyond the realm of the Adaptive Dimension and into the area of modified or alternative programming. Students who are already in an approved modified or alternative program can also benefit from the decision making process described above.

Refinement of teacher-made decisions based on identification of individual students needs. ↑ ↓

The Approved Curriculum		
Target Population	**Focus**	**Decision Emphasis**
Classroom as one group	Broad focus on all students (assessment for adaptation occurs here)	• decisions about curriculum, instruction, and environment are uniformly applied to all students • standard curriculum is used • emphasis is on mastering predetermined and common curricular objectives • full repertoire of instructional approaches is employed
The Adaptive Dimension in the Approved Curriculum		
Target Population	**Focus**	**Decision Emphasis**
Small Groups	Narrower focus (refinements are based on similar interests, needs, or abilities)	• curricular, instructional, or environmental adjustments are selectively and purposefully applied to similar interest, need, or ability groupings • emphasis is on enriching, extending, reinforcing, or teaching differentially to stated curricular objectives
Individual Students	Narrowest focus (refinements are very specific to individual needs)	• curricular, instructional, or environmental adjustments are selectively and purposefully designed to meet individual student needs • emphasis is on tailoring the content and instructional approach in the context of individual needs so that the student achieves the objectives outlined in the approved curriculum

Figure 6. Instructional Decision making in the Adaptive Dimension

Adapting Curriculum Content

A curriculum outlines the knowledge, skills, abilities, attitudes, and values a student is expected to gain from studies in a particular subject area. Within the context of the Adaptive Dimension, curricular objectives are not modified. Rather, the curriculum is adjusted to help students achieve pre-stated foundational and learning objectives.

Although a curriculum guide outlines required learnings, the outline must be flexible enough to allow for differences in students' backgrounds, prior knowledge, abilities, and interests, and for differences in community expectations.

Resource-based learning is a particularly effective means of varying content by using resource materials that best suit students' needs (e.g., reference books, tape recordings, and filmstrips). This would allow students, for example, to develop research topics or questions appropriate for them and to use materials suited to their own ability level. Means of reporting can also vary from traditional written reports and oral presentations to audio-visual presentations, visual journals, or kinesthetic activities.

Teachers should also consider theme or context-based teaching as a way to vary content for individual needs. Teachers might adjust content by monitoring their own use of vocabulary. By using both familiar and new vocabulary in appropriate contexts, teachers can challenge all students, regardless of the prior knowledge or experience they possess.

Adapting Instructional Practices

Adapting instruction is not a new practice for teachers in Saskatchewan. The Saskatchewan Teachers' Federation Study of Teaching (Gallén and Bold, 1990) shows that many teachers are responding to student learning needs through various adaptive methods.

Adapting instruction simply refers to the selection of appropriate instructional strategies and methods for all students. This does not mean teachers must instruct every student in the class differently. Rather, they plan instructional practice with every student in mind so that every student has the opportunity to learn.

At any given time during the year, the teacher has three options when making decisions regarding instruction and the approved curriculum.

- The teacher can decide it is appropriate to instruct the whole class in the same manner. This can be, for example, through direct instruction, through heterogeneous group work, or through any instructional method the teacher deems appropriate for the task.

- The teacher can decide to adapt instruction for a small group or groups of students with similar needs, interests, or abilities. This could be for the purpose of enrichment, extension, or reinforcement. Groupings should be fluid, flexible, and of short duration.

- The teacher can decide that an individual student requires adaptive instruction for any

number of reasons, including enrichment, extension, or reinforcement. The adaptation could range from one-to-one instruction to independent study.

Decisions regarding these choices are based on ongoing evaluation and assessment that is always dynamic and changing. In addition, students' need for adaptation can vary from subject area to subject area. Instructional decisions reflect and recognize that students' needs may vary from subject to subject, as well as, over time.

The teacher should address the instructional needs of all students by:

- evaluating all students' needs relative to the curriculum;
- viewing the whole range of instructional strategies and methods as having potential for adaptation;
- ensuring a variety of instructional strategies and methods are used throughout the year;
- attending to individual learning styles (e.g., giving instructions or information in both written and oral forms);
- engaging in cooperative or team teaching;
- working in cooperation with the teacher-librarian when planning and facilitating resource-based learning;
- providing more than one way to accomplish a task (e.g., learning centre activities and co-operative learning groups);
- involving students in decisions regarding their own learning;
- using interactive techniques that allow for close monitoring of the students' progress;
- establishing peer and cross-age tutoring projects;
- providing enrichment and remediation in a variety of ways whenever needed; and,
- using evaluation techniques that are matched to the instructional adaptations that have been made for the students.

Adapting the Learning Environment

Adjustments in the learning environment should be considered for all students in all classrooms. While one student might thrive on group interaction, another might need a private study carrel; one student might receive oral instructions well, another might require written instructions or the assistance of a classroom volunteer; one student might complete written work quickly, another, who is capable of the same quality work, might need more time to complete the task.

The teacher can adjust the learning environment to meet student needs by:

- altering the classroom arrangement so the student may benefit more fully from the instruction;
- making use of spaces outside the classroom, such as the school library;
- using a variety of instructional materials (resource-based learning);
- using paraprofessionals and volunteers in the classroom;
- encouraging students to learn at their own rates;
- adjusting instructional time for individual students; and,

- accommodating a variety of learning modes (visual, auditory, kinesthetic).

Summary

The Adaptive Dimension includes all practices the teacher employs to make learning meaningful and appropriate to each student. Adapting instruction is an integral aspect of the Adaptive Dimension, as is adjusting the curriculum content and the learning environment. Because the Adaptive Dimension permeates all teaching practice, sound professional judgment becomes the critical factor in decision making. The following chapter examines guidelines and variables to consider in making choices and in reflecting on past practice.

Reflective Questions

1. **What means of adapting curriculum, instruction, or the learning environment have I found most useful? What other adaptations do I make that are not mentioned in this chapter?**

2. **Adapting instruction to best meet the range of needs of each of my students is a challenge. What supports are available to assist me in meeting this challenge?**

3. **As a classroom teacher, what student assessment techniques do I need to employ to help me meet the needs of individual students?**

Chapter 4: Making Instructional Choices

Teaching is informed decision making. Everyday in their classrooms teachers make decisions about instructional alternatives, student learning, and curricular content. As indicated earlier in this document, there are few occasions when only one instructional approach will bring about the desired outcomes. When two or three options are available, the criteria used to make the final professional judgements become increasingly significant.

Guidelines for the Teacher as Decision Maker

Choosing from among the models and strategies of instruction and the vast array of teaching methods is a complex task. It may help to be aware of the broad guidelines for instructional choices written by Carl Rogers (1969) over two decades ago:

- The teacher is responsible for setting and maintaining the climate of the classroom.
- The teacher helps set the purposes for individuals and the group as a whole, in the classroom.
- The teacher should believe learners have the desire to realize the purposes that are meaningful to them, and that this is a strong motivational force that can lead to significant learning.
- The teacher organizes and makes available the widest range of learning resources.
- The teacher is a flexible resource for individuals and the class group.
- The teacher is a participant learner who does not have to know and tell it all.
- The teacher can take the initiative to share his or her thoughts and feelings with students, although this must not impose a reciprocal demand.
- The teacher should be sensitive to expressions of deep or strong feelings.
- The teacher recognizes and accepts his or her limitations as a learning facilitator.

Variables In Instructional Choices

Several variables must be considered when selecting the instructional models, strategies, and methods to use in a course, unit, or lesson. These variables include:

- the student outcomes and experiences desired;

- the learning sequence (deductive or inductive) that is appropriate;
- the degree of student choice and responsibility;
- the kind of interaction pattern that is suitable;
- the Common Essential Learnings to be developed;
- the amount of adjustment needed for students through the Adaptive Dimension; and,
- existing practical limitations.

Making instructional choices is not easy because in some situations not all the variables can be accommodated to the same extent. The teacher may have to set priorities and make compromises. Sometimes it is desirable to have variety to arouse or maintain student interest. Perhaps, due to the student's developmental stage or lack of experience, a particular instructional method may not be appropriate. In all cases, teachers must be clear about the objectives to be achieved, the body of knowledge that is the vehicle for learning, activities that may be used, how the learning product and/or process is to be demonstrated (evaluated), and application of learnings to new situations. Where appropriate, students should be included in decision making around these instructional choices. ***It is important that the objectives, instructional methods and activities, and evaluation be congruent.***

Selection of Content and Experiences

Content and process selections must be based on the potential for helping the student to achieve objectives. The nature of the content and experiences, and the kinds of outcomes to be derived through a course, unit, or lesson must be determined. Learning outcomes that are social, affective, psychomotor, or cognitive need to be considered. The question of product versus process outcomes needs to be addressed. Examples of types of learning outcomes are listed below:

- Facts and Information
- Concepts
- Learning Generalizations
- Step-By-Step Psychomotor Skills
- Step-By-Step Cognitive Skills
- Independent Study
- Critical Thinking, Problem Solving, and Decision making Processes
- Creative Thinking
- Creative Expression
- Interpersonal and Social Skills
- Attitudes, Appreciations, and Values

Knowing about different types of learning outcomes is important when consideration is given to matching outcomes with instructional approaches. Consider the two examples that follow:

Example #1

Research indicates that facts and information can be learned efficiently through explicit teaching, a direct instruction strategy. Facts and information can also be learned in co-operative learning groups, an interactive strategy. It has been demonstrated that co-operative learning leads to interpersonal and social growth and reduction of prejudice. The choice of strategy, then, would depend on the focus of the experience.

Example #2

If the teacher wants students to practice problem solving, students must be actively involved. Interaction with others can be beneficial. The teacher can select a direct instruction strategy that might be used to provide background information before using either an indirect strategy (for example, the inquiry method) or an experiential strategy (for example, a simulation). Problem-solving can also be fostered through independent study. Furthermore, instructional strategies may be combined. For example, co-operative group investigation and inquiry may be used jointly to achieve interpersonal and social outcomes. Again, the choice of strategy is dependent upon the focus for the particular experience.

Selecting Inductive or Deductive Learning Sequence

Generally, teachers sequence learning in two ways: deductive or inductive. The terms inductive and deductive refer to the way in which ideas flow (Borich, 1988). Figure 7 illustrates the two.

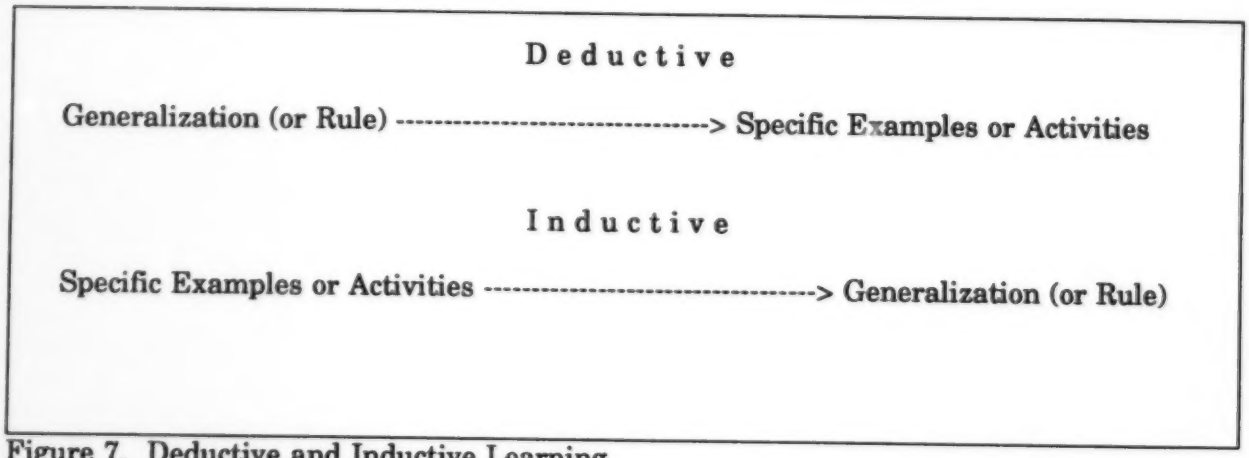
Deductive
Generalization (or Rule) ----------> Specific Examples or Activities
Inductive
Specific Examples or Activities ----------> Generalization (or Rule)

Figure 7. Deductive and Inductive Learning

In the deductive sequence, ideas proceed from generalizations, principles, rules, laws, propositions, or theories to specific applications. The deductive sequence involves presenting a generalization and then seeking or providing examples.

In the inductive sequence, students are encouraged to analyze information or data and hypothesize, discover a pattern, or draw a conclusion. The inductive sequence moves from examples to discovery or presentation of the generalization.

Both deductive and inductive sequences are valuable for teaching concepts, generalizations, processes, and skills. The teacher must decide which to select given the learning outcomes desired and the composition of the class. When choosing, the teacher should consider a number of factors:

- How personalized should the learning be? Students will usually be more involved in the learning experience and tend to participate more actively when an inductive approach is used. If a deductive approach is chosen, it is important to structure the learning experience in order to draw on students' prior experiences and learning, and to provide for their active involvement.

- Should learning experiences be predictable? The deductive approach is more predictable because the teacher selects the information and the sequence of presentation.

- What depth of understanding and rate of retention is needed? Students tend to understand and remember when learning occurs inductively.

- How much time is available to teach the material? The deductive approach is faster and can be an efficient way to teach large numbers of facts and concrete concepts.

Instructional methods tend to be either deductive or inductive, although some methods apply to either sequence. Many lessons can include both approaches.

Allowing for Student Choice and Responsibility

A high degree of teacher direction in a classroom exists when the teacher, with little or no input from students, is the one that determines the objectives, content, learning activities, classroom management rules and procedures, and assessment. A high degree of student responsibility exists when students determine their own needs and select content, experiences, evaluation methods, and format for learning. There is a continuum between these two and in any given classroom there is room for both, depending on factors such as the nature of the content and the readiness of students to assume increasing responsibility for their learning.

Some instructional strategies and methods are highly teacher-directed; for example, lecture, didactic questioning, and explicit teaching. Other teaching strategies and methods are strongly student-centred, such as inquiry, co-operative learning, and some experiential methods. Teacher directedness and student responsibility can shift and vary during a lesson or unit.

There is little disagreement that the ideas of students about their own learning should be sought and valued. Students are motivated when they are involved. In addition, knowing what students think can allow the teacher to make suitable adaptations and to work from the students' previous experiences.

Educators now recognize the need to teach students how to assume more responsibility and to trust them to exercise that responsibility. Support for resource-based learning and community involvement in instruction has also grown. This reflects the growing conviction that students should be allowed more choice and responsibility in their learning.

Factors to be taken into consideration when deciding on the degree of student choice and

responsibility include:

- promotion of student ownership and the motivation that results;
- the degree to which the proper environment has been established;
- interpersonal and group skills students possess;
- the ability of the student to work independently;
- the degree of student responsibility with which the teacher has learned to be comfortable; and,
- the availability of print and nonprint resources.

While student maturity is obviously a factor, it is important to provide a conducive climate and ample opportunities for students to develop their abilities to make choices and assume responsibility for their own learning.

Selecting Types of Interaction

A major variable in selecting instructional approaches is the type of **interaction** desired. Basically, interaction can range from the total class to small groups to individuals working alone. A variety within a unit of study and throughout the year is desirable.

Individual students have their own preferred types of interaction. The teacher should be aware of and sensitive to these preferences, challenging students while striving to expand their ways of working. Teachers should recognize that individual preference is connected to preferred learning style.

Integrating the Common Essential Learnings

Because the C.E.L.s are to be integrated into curriculum content rather than taught separately, the selection of instructional approaches is a significant consideration. For example, specific instructional strategies and methods foster development of the different modes of communication -- listening, speaking, reading, and writing. The strategy of independent study, for example, helps to develop knowledge, processes, values, and attitudes associated with independent learning. The integration of the Common Essential Learnings into school subjects involves choice of curricular content, teacher modelling, and the selection of instructional approaches.

Practical Considerations

In addition to the previous variables that must be considered, there are personal, physical, and fiscal factors that affect instructional choices. The following list highlights some of these practical considerations.

Student Background: Does this instructional approach require understandings the students do not yet have? If so, can these be acquired prior to or during the lesson or unit? How can students' prior knowledge be tapped? Are there student characteristics that require

adaptations of the material, setting, or instructional approaches? Can students' interests be addressed?

Teacher Background: Under what circumstances should this strategy or method be chosen? Does the strategy or method complement the teacher's preferred teaching style?

Time: Certain strategies and methods require more instructional time. Is the time available? Is the time required justified in terms of student learning?

Cost: Strategies and methods vary as to physical equipment and supplies required. What costs are associated with this method? Do the outcomes of this choice justify the cost?

Physical Environment: Can the classroom, resource centre, and/or the school accommodate the strategy or method being selected? Within the limitations of the situation, what adaptations can be made to accommodate the use of this method?

Summary

In order to select appropriate instructional models, strategies, and methods, the teacher must examine the scope and the limitations of each. Teachers must also consider the wide range of variables that affect instructional decision making, and make the best choices for their students and their situations.

Reflective Questions

1. **How do I presently make choices regarding instructional approaches?**
2. **How does the art in teaching have a place in the selection of instructional approaches?**
3. **What strengths does the teacher-as-artist bring to the daily practical considerations of classroom life?**

Chapter 5: The Next Step

As has been stated, *Instructional Approaches: A Framework For Professional Practice* does not serve as a quick reference for the array of instructional practices that are presently used in Saskatchewan schools. Nor does it pretend to indicate that the ideas it offers are completely new or innovative. The recent Saskatchewan Teachers' Federation Study of Teaching (Gallén & Bold, 1989) documented that, among Saskatchewan teachers, a range of instructional approaches is employed to meet student learning needs. Several of the concluding observations of that study are pertinent to this document:

- successful teaching depends upon the availability of a repertoire of teaching behaviours;
- the range of positive teaching behaviours associated with successful teaching is extremely broad;
- successful teaching includes many activities that go beyond the actual instructional act; and,
- decision making behaviours on the part of teachers are crucial to success in almost all aspects of students' school lives (pp. 132-135).

Teachers need to employ a variety of instructional approaches in order to enhance the art of teaching and meet the objectives of *Directions: The Final Report*, particularly those related to meeting individual student learning needs through the Adaptive Dimension and through the development of the Common Essential Learnings. However, it is not sufficient to promote an array of instructional approaches without providing an environment to support changes in professional practice. This support must come from all levels of the educational system -- Saskatchewan Education, school divisions, schools, teachers, and students.

The mandate of Saskatchewan Education is to develop curricula and curriculum policies. These must be accompanied by opportunities for school divisions, schools, and teachers to become familiar with the curricula and the means to put them into practice in the classroom. Similarly, teachers must empower students by providing them with curriculum content appropriate to their abilities, and by fostering active learning. The teacher, because he or she is making the instructional choices, is critical.

Professional Development in Instruction

As in other areas of professional development, there are many ways for teachers to enhance their expertise. Saskatchewan educators are fortunate to have many opportunities available for further study of instruction:

- The University programs in both Regina and Saskatchewan offer classes that address instructional practice.

- The Saskatchewan Teachers' Federation offers a variety of summer short courses that

encompass instructional practice.

- The Stewart Resource Centre (Saskatchewan Teachers' Federation) offers a wide range of instructional support materials for teachers.

- The interest in instruction has resulted in research and professional writing on this topic. The possibilities for professional reading in the area of instruction are limited only by the time available.

- Examination of personal instructional practices can be aided through peer coaching and developmental supervision. The value of colleagues as a resource should not be underestimated or overlooked.

- Saskatchewan Education has developed a Staff Development Program to accompany this document. The Staff Development Program includes a Resource Package on instruction.

- The Saskatchewan Professional Development Unit (SPDU) is developing a series of instructional modules on selected instructional methods.

Instructional Approaches: Staff Development Program

Instructional Approaches: A Framework for Professional Practice provides a basis for further professional development. Saskatchewan Education has prepared a Staff Development Program that is available to each school staff. The print and videotape materials are available to schools through an inservice package distributed to each school division. School staffs will be encouraged to build on this inservice with group and individual study of the materials provided. The materials will present an in-depth examination of several of the most common instructional strategies and methods.

The Staff Development Program will:

- provide a systematic and sustained approach to the study of instructional approaches with reference to the Instructional Framework;

- incorporate principles of adult learning and effective staff development;

- provide for training of classroom professionals;

- encourage self-reflection and professionalism; and,

- encourage collegial teaching.

The staff development program includes the following:

- *Instructional Approaches: A Framework for Professional Practice* (one copy per teacher);
- a leadership training program for school-based teams;
- an inservice leadership package for each school-based leadership team;
- a resource package for incorporating the Common Essential Learnings and the Adaptive Dimension through instruction (one package per school); and,
- a *Teaching Strategy Library* video cassette series, produced by the Association for Supervision and Curriculum Development (available through school division offices).

The Challenge

This document has extended an invitation to individual teachers, administrators, and school staffs to explore the topic of instruction. Through involvement with the Staff Development Program, Saskatchewan Education is sharing the responsibility for further professional development with all those involved in education in Saskatchewan.

Defining and describing the instructional approaches presented in this document has been an exciting and challenging endeavour. It has been exciting because it has helped to focus thinking about teaching and learning. It has been challenging because instruction and the adaptive dimension truly bring the elements of Core Curriculum together in a coherent whole. *Directions: The Final Report* provided a vision for better educational opportunities for young people of Saskatchewan. This document, *Instructional Approaches: A Framework for Professional Practice*, in the most precise terms invites professional educators to continue to shape that vision through reflection upon instructional practice. Supporting such reflection with a firm commitment to professional action will make the vision a reality.

Reflective Questions

1. **How might Saskatchewan Education's Staff Development Program be integrated with the other staff development initiatives in our school and school division?**

2. **What specific information regarding instructional methods do I already have which I might share with colleagues?**

3. **From among the models, strategies, methods, and skills, which will I select as the focus for my personal professional development? What kinds of supports are available within the school or school division?**

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